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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/750,311	ARECCO ET AL.	
	Examiner	Art Unit	
	David S. Kim	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 August 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,14-17 and 21-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,14-17 and 21-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *13*.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Europe on 31 May 2000. It is noted, however, that applicant has not filed a certified copy of the 01-11594.8 application as required by 35 U.S.C. 119(b).

Applicant has submitted an uncertified copy of the 01-11594.8 application. However, a *certified* copy is required. The maximum time limit is that the priority papers must be filed before the patent is granted, but the statute gives the Commissioner authority to set this time limit at an earlier time during the pendency of the application. If the required papers are not filed within the time limit set, the right of priority is lost. Please refer to MPEP 201.14, 2nd paragraph.

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Europe on 01 July 1999. It is noted, however, that applicant has not filed a certified copy of the 99112552.7 application as required by 35 U.S.C. 119(b).

Applicant has submitted an uncertified copy of the 99112552.7 application. However, a *certified* copy is required. The maximum time limit is that the priority papers must be filed before the patent is granted, but the statute gives the Commissioner authority to set this time limit at an earlier time during the pendency of the application. If the required papers are not filed within the time limit set, the right of priority is lost. Please refer to MPEP 201.14, 2nd paragraph.

Also, receipt is acknowledged of papers filed under 35 U.S.C. 119 (a)-(d) based on an application filed in Europe on 01 July 1999. Applicant has not complied with the requirements of 37 CFR 1.63(c), since the oath, declaration or application data sheet does not acknowledge the filing of this foreign application. A new oath, declaration or application data sheet is required in

the body of which this foreign application should be identified by application number and filing date.

Specification

3. The amendment filed on 04 August 2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

"(i) European Patent Application No. 99112552.7, filed 01 July 1999" (Paper No. 14, versions of substituted Patent Application, p. 1).

Applicant is required to cancel the new matter in the reply to this Office Action.

4. Examiner appreciates Applicant's compliance with the objections raised in the previous Office Action. Additionally, the disclosure is still objected to because of the following informalities:

There appears to be minor typographical errors. Please refer to Paper No. 14, marked up version of substituted Patent Application (63 pages):

On p. 22 and 24, third receiving transponder is referenced as "$RxT_2(\lambda_x\}$" where "$RxT_2(\lambda_x)$" may be intended.

On p. 31, line 5, "$RxT_1(Ax)$" is used where "$RxT_1(\lambda_x)$" may be intended.

There appears to be discrepancies with the drawings:

The usage of "first" instead of "second" on p. 14, line 31.

The usage of "second" instead of "first" on p. 15, line 1.

An inaccurate table on page 27.

The usage of "first" instead of "fourth" on page 49, line 19.

An entire section describing "Node D" on page 39 is missing.

Appropriate correction is required.

Claim Objections

5. Examiner appreciates Applicant's compliance with the objections raised in the previous Office Action. Additionally, **claims 10 and 24** are objected to because of the following informalities:

In claim 10, line 3, "coupled the" is used where "coupled to the" may be intended.

In claim 24, line 3, "the optical signal" is used where "an optical signal" may be intended. Otherwise, antecedent basis is lacking.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. Examiner appreciates Applicant's compliance with the objections raised in the previous Office Action. Accordingly, the rejections under 35 U.S.C. 112 have been withdrawn.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 1-6, 9-10, 14-15, and 21-24** are provisionally rejected under 35 U.S.C. 102(e) as being anticipated by copending Application No. 09/608,657 which has a common inventor and a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the copending application, it would constitute prior art under 35 U.S.C. 102(e), if published under 35 U.S.C. 122(b) or patented. This provisional rejection under 35 U.S.C. 102(e) is based upon a presumption of future publication or patenting of the copending application.

Regarding claim 1 of the instant application, consider claim 1 of the copending application. The "ring network" in claim 1 of the instant application corresponds to the "system" in claim 1 of the copending application. The notable difference between the conflicting claims is the presence of the following limitations in claim 1 of the instant application; that is, the following limitations are absent from claim 1 of the copending application:

a ring network; and

said respective working path having a complementary arc path defining a protection arc path in which the first wavelength on the first carrier and the second wavelength on the second carrier can be used for further links; and

wherein the reconfiguration of one or more of the nodes reflects reconfiguration at a channel level associated with the ring network.

However, the copending application also discloses such a ring network (copending application, Fig. 2), such a complementary arc path (copending application, Fig. 9), and such reconfiguration (copending application, p. 7, lines 4-6).

Regarding claims 2-6 and 9, claims 2, 3, 4, 5, 6, and 9 of the instant application are network claims that correspond closely to system claims 2, 3, 3, 4, 5, and 3 of the copending application, respectively. The notable difference between claims 2-6 and 9 of the instant application and claims 2-5 of the copending application is the express disclosure of a signal input and a signal output (instant application, claim 3). However, the claims of the copending application discloses a switch unit coupled to an optical transmitter and to an optical receiver (copending application, claim 3); these couplings inherently comprise the signal input and signal output of the instant application. Therefore, claims 2-6 and 9 of the instant application define an obvious version of the invention defined in claims 2-5 of the copending application.

Regarding claim 10, the copending application discloses:

The ring network of Claim 9, wherein said optical switch unit (copending application, optical switch unit 15 in Fig. 3) includes a second switch (copending application, optical switch 22 in Fig. 3) having a first input (copending application, input from carrier 2 in Fig. 3) that is coupled to the first carrier and a second input (copending application, input from carrier 3 in Fig. 3) that is coupled to the second carrier, and wherein an output (copending application, output to Rx_1 in Fig. 3) of the second switch is optically coupled to a signal output (copending application, Tx_1 in Fig. 3).

Regarding claim 14 of the instant application, consider claim 6 of the copending application. The notable difference between the conflicting claims is the presence of the following limitations in the instant application; that is, the following limitations are absent from the copending application:

each pair including a first and a second link termination node adapted to mutually communicate at respective first and second wavelengths; and

said working path having a complementary arc path defining a protection arc path in which the first wavelength on the first carrier and the second wavelength on the second carrier can be used for further links; and

wherein the reconfiguration of one or more of the nodes reflects reconfiguration at a channel level associated with the ring network.

However, the copending application also discloses such a pair of termination nodes (copending application, nodes 20c and 20f in Fig. 2), such a complementary arc path (copending application, Fig. 9), and such reconfiguration (copending application, p. 7, lines 4-6).

Regarding claims 15 and 21-22, claims 15, 21, and 22 of the instant application are network claims that correspond closely to system claims 7, 11, and 12 of the copending application, respectively. The differences between claims 15 and 21-22 of the instant application

and claims 7 and 11-12 of the copending application are minor variations in the claim language; the main limitations are the same.

Regarding claim 23, the copending application discloses:

The method of Claim 14, wherein the step of exchanging signals includes the following steps executed in the first link termination node (copending application, Fig. 3):

generating an optical signal carrying information (copending application, transmitters, p. 19);

converting the optical signal into an electrical signal (copending application, transponders, p. 20);

adding information to the electrical signal (copending application, transponders, p. 20-21);

reconverting the electrical signal into an optical signal provided with a predetermined wavelength adapted for transmission (copending application, transponders, p. 20); and

communicating (copending application, OADMs, p. 19) the optical signal at the predetermined wavelength to a selected one of the first and second carriers.

Regarding claim 24, the copending application discloses:

The method of Claim 14, wherein the step of exchanging signals includes the following steps executed in the second link termination node (copending application, Fig. 3):

receiving an optical signal at the predetermined wavelength from a selected one of the first and the second carriers (copending application, OADMs, p. 19);

converting the optical signal at the predetermined wavelength into an electrical signal (copending application, transponders, p. 21-22);

extracting information from the electrical signal (copending application, transponders, p. 21-22);

reconverting the electrical signal into an optical signal with a wavelength adapted for reception (copending application, transponders, p. 21); and

receiving (copending application, receivers, p. 20) the optical signal with the wavelength adapted for reception.

This provisional rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the copending application was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131. This rejection may not be overcome by the filing of a terminal disclaimer. See *In re Bartfeld*, 925 F.2d 1450, 17 USPQ2d 1885 (Fed. Cir. 1991).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Cadeddu et al. as primary reference:

11. **Claims 1, 3-4, 9-10, 14-15, and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cadeddu et al. (U.S. Patent No. 5,647,035) in view of Gerstel et al. ("Optical layer survivability: a services perspective").

Regarding claim 1, Cadeddu et al. discloses:

An autoprotected optical communication ring network (Figs. 1-2), comprising:

a first (optical fiber 3A in Figs. 1-2) and a second optical carrier (optical fiber 3B in Figs. 1-2) having opposite transmission directions (clockwise in fiber 3A and counterclockwise in fiber 3B in Figs. 1-2); and

a plurality of optically reconfigurable nodes (nodes 2A-2F in Figs. 1-2) optically connected along the first and the second optical carriers and adapted to communicate in pairs (pairs of nodes in Figs. 1-2) by respective links susceptible to failure (col. 5, lines 58-60), the ring network having a normal operative condition in which the nodes of each of the pairs are optically configured so as to exchange optical signals on a respective working arc path (working paths shown in Fig. 1) at a respective first wavelength (λ1 in Fig. 1) on the first carrier (fiber 3A in Fig. 1) and at a respective second wavelength (λ2 in Fig. 1) different from said first wavelength (λ1 in Fig. 1) on the second carrier (fiber 3B in Fig. 1), said respective working path having a complementary arc path defining a protection arc path (protection path from node 2B to node 2C by way of nodes 2A, 2F, 2E, and 2D in Fig. 2) in which the first wavelength (λ1 in Fig. 2) on the first carrier (fiber 3A in Fig. 2) and the second wavelength (λ2 in Fig. 2) on the second carrier (fiber 3B in Fig. 2) can be used for further links (link pairs of nodes 2A-2B, 2A-2F, 2F-2E, 2E-2D, and 2D-2C in Fig. 2) and the first wavelength (λ1 in Fig. 2) on the second carrier (fiber 3B in Fig. 2) and the second wavelength (λ2 in Fig. 2) on the first carrier (fiber 3A in Fig. 2) are reserved for protection (col. 2, lines 42-47), such that the ring network has a failure operative condition in which the nodes terminating a failed link (nodes 2B and 2C in Fig. 2) are

optically reconfigured (Fig. 2) so as to exchange optical signals on the protection arc path at the respective second wavelength (λ2 in Fig. 2) on the first carrier (fiber 3A in Fig. 2) and at the respective first wavelength (λ1 in Fig. 2) on the second carrier (fiber 3B in Fig. 2).

Cadeddu et al. does not expressly disclose:

wherein the reconfiguration of one or more of the nodes reflects reconfiguration at a channel level associated with the ring network.

Rather, Cadeddu et al. teaches reconfiguration that is similar to reconfiguration at a multiplex section level (col. 6, lines 16-20). However, Cadeddu et al. does recognize that reconfiguration can occur at a multiplex section level or a channel level (col. 1, lines 56-59, "path level" is another term for channel level). Moreover, reconfiguration at a multiplex section level or a channel level is conventionally known and practiced in the art. Gerstel et al. teaches such reconfiguration (Gerstel et al., p. 107-113). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to practice the reconfiguration of Cadeddu et al. such that it reflects reconfiguration at a channel level associated with the ring network. One of ordinary skill in the art would have been motivated to do this to provide fault recovery against failures of terminal equipment (multiplex section level reconfiguration does not provide this fault recovery) (Gerstel et al., p. 107, Table 1; p. 113, 3rd full paragraph). Additionally, another motivation is that reconfiguration at a channel level can have higher bandwidth efficiency over reconfiguration at a multiplex section level (Gerstel et al., p. 112, Fig. 8).

Regarding claim 3, Cadeddu et al. in view of Gerstel et al. discloses:

The ring network of Claim 1, wherein said plurality of reconfigurable nodes (nodes 2A-2F in Figs. 1-2) includes a signal input (inputs to switches 12A-12B in Figs. 3-6), a signal output (outputs from switches 11A-11B in Figs. 3-6), and a reconfigurable optical switch unit (switches 11A-11B and 12A-12B in Figs. 3-6) operable to couple said signal input and said signal output to said first and second carriers respectively.

Regarding claim 4, Cadeddu et al. in view of Gerstel et al. discloses:

The ring network of Claim 3, wherein said signal input is optically coupled to an optical transmitter (transmitters 14B and 15A in Figs. 3-6) and said signal output is optically coupled to an optical receiver (receivers 14A and 15B in Figs. 3-6).

Regarding claim 9, Cadeddu et al. in view of Gerstel et al. discloses:

The ring network of Claim 3, wherein said optical switch unit (switches 11A-11B and 12A-12B in Figs. 3-6) includes a first switch (switches 12A-12B in Fig. 3) having a first input (inputs to switches 12A-12B from transmitters 14B and 15A in Fig. 3) that is optically coupled to a signal input (transmitters 14B and 15A in Fig. 3).

Regarding claim 10, Cadeddu et al. in view of Gerstel et al. discloses:

The ring network of Claim 9, wherein said optical switch unit (switches 11A-11B and 12A-12B in Figs. 3-6) includes a second switch (switches 11A-11B in Fig. 3) having a first input (inputs to switches 11A-11B from fiber 3A in Fig. 3) that is coupled to the first carrier and a second input (inputs to switches 11A-11B from fiber 3B in Fig. 3 in Fig. 3) that is coupled to the second carrier, and wherein an output (outputs to receivers 14A and 15B in Fig. 3) of the second switch is optically coupled to a signal output (receivers 14A and 15B in Fig. 3).

Regarding claim 14, claim 14 is a method claim that corresponds largely to the system claim 1. Therefore, the recited means in system claim 1 read on the corresponding steps in method claim 14. Claim 14 also includes limitations absent from claim 1. These limitations are:

each pair of communicating nodes including a first and a second link termination node adapted to mutually communicate at respective first and second wavelengths; and

checking if a failure is present in the ring network producing a failed link.

Cadeddu et al. in view of Gerstel et al. also discloses such termination nodes (nodes 2B and 2C in Fig. 2) and such checking (col. 7, lines 63-64).

Regarding claim 15, Cadeddu et al. in view of Gerstel et al. discloses:

The method of Claim 14, wherein each node of said plurality of nodes is adapted to manage a predetermined subset of wavelengths (λ1-λ2 in Figures) within a set of transmission wavelengths (λ1-λ2 in Figures) carried by the first and the second carriers, said step of exchanging including optically separating (demultiplexers 10A-10B in Figs. 3-6), at each node of said plurality of nodes, each wavelength of the respective subset of wavelengths from a set of transmission wavelengths.

Regarding claim 22, claim 22 is a method claim that corresponds to system claim 4. Therefore, the recited means in system claim 4 read on the corresponding steps in method claim 22.

Shiragaki et al. as primary reference:

12. **Claims 1-5, 7-10, 14-17, and 21-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiragaki et al. (European Patent Application EP 920153 A2) in view of Cadeddu et al.

Regarding claim 1, Shiragaki et al. discloses:

An autoprotected optical communication ring network (Figures), comprising:

a first (ring 101 in Fig. 8) and a second optical carrier (ring 102 in Fig. 8) having opposite transmission directions (clockwise in ring 101 and counterclockwise in ring 102 in Fig. 8); and

a plurality of optically reconfigurable nodes (nodes A and B in Fig. 8) optically connected along the first and second optical carriers and adapted to communicate in pairs (pairs of nodes in Figures) by respective links susceptible to failure (col. 13, line 48), the ring network having a normal operative condition in which the nodes of each of the pairs are optically configured so as to exchange optical signals on a respective working arc path (working path in Fig. 11A) at a respective first wavelength (λ_1 in Fig. 8) on the first carrier (ring 101 in Fig. 8) and at a respective second wavelength (λ_3 in Fig. 8) different from said first wavelength (λ_1 in Fig. 8) on the second carrier (ring 102 in Fig. 8), said respective working path having a complementary arc path defining a protection arc path (protection path through nodes 105 and 108 in Fig. 11A) in which the first wavelength (λ_1 in Fig. 8) on the second carrier (ring 102 in Fig. 8) and the second wavelength (λ_3 in Fig. 8) on the first carrier (ring 101 in Fig. 8) are reserved for protection (col. 13, lines 30-35), such that the ring network has a failure operative condition in which the nodes terminating a failed link (nodes A and B in Fig. 8) are optically reconfigured (Fig. 10) so as to exchange optical signals on the protection arc path at the respective second wavelength (λ_3 in Fig. 10) on the first carrier (ring 101 in Fig. 10) and at the respective first wavelength (λ_1 in Fig. 10) on the second carrier (ring 102 in Fig. 10), wherein the reconfiguration of one or more of the

nodes reflects reconfiguration at a channel level (note reconfiguration switches at a channel level *before* multiplexing and *after* demultiplexing in Figures) associated with the ring network.

Shiragaki et al. does not expressly disclose:

said protection arc path (protection path through nodes 105 and 108 in Fig. 11A) wherein the first wavelength (λ1 in Fig. 8) on the first carrier (ring 101 in Fig. 8) and the second wavelength (λ3 in Fig. 8) on the second carrier (ring 102 in Fig. 8) can be used for further links.

Cadeddu et al. teaches such a protection arc path (Cadeddu et al., protection path from node 2B to node 2C by way of nodes 2A, 2F, 2E, and 2D in Fig. 2) with such further links (Cadeddu et al., link pairs of nodes 2A-2B, 2A-2F, 2F-2E, 2E-2D, and 2D-2C in Fig. 2). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the protection arc path of Shiragaki et al. to carry further links, as taught in Cadeddu et al. One of ordinary skill in the art would have been motivated to do this "to allow full exploitation of the transmission capacity" (Cadeddu et al., col. 2, lines 25-26) and to enable communication to continue "on the other carriers included in the same connection" (Cadeddu et al., col. 8, lines 18-24).

Regarding claim 2, Shiragaki et al. in view of Cadeddu et al. discloses:

The ring network of Claim 1, wherein each of said plurality of reconfigurable nodes (nodes A and B in Fig. 8) is configured to manage a predetermined subset of wavelengths (λ1 and λ3 in Fig. 10) within a set of transmission wavelengths (λ1-λ4 in Fig. 10) and wherein each of the nodes includes a first and a second optical add/drop multiplexer (Fig. 10) that may be serially connected to said first (ring 101 in Fig. 10) and second carriers (ring 102 in Fig. 10) respectively in order to communicate said subset of wavelengths to said first and second carriers.

Regarding claim 3, Shiragaki et al. in view of Cadeddu et al. discloses:

The ring network of Claim 1, wherein said plurality of reconfigurable nodes (nodes A and B in Fig. 8) includes a signal input (inputs to protection switches for transmitting in Figures) a signal output (outputs from protection switches for receiving in Figures) and a reconfigurable optical switch unit (protection switches and path switches in Figures) operable to couple said signal input and said signal output to said first and second carriers respectively.

Regarding claim 4, Shiragaki et al. in view of Cadeddu et al. does not expressly disclose:

The ring network of Claim 3, wherein said signal input is optically coupled to an optical transmitter and said signal output is optically coupled to an optical receiver.

However, Cadeddu et al. also teaches such inputs optically coupled to optical transmitters (Cadeddu et al., transmitters 14B and 15A in Figs. 3-6) and such outputs optically coupled to optical receivers (Cadeddu et al., receivers 14A and 15B in Figs. 3-6). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to couple the inputs of Shiragaki et al. to transmitters and the outputs of Shiragaki et al. to receivers, as taught in Cadeddu et al. One of ordinary skill in the art would have been motivated to do this since transmitters and receivers are inherently necessary to generate and process optical signals in the nodes of Shiragaki et al. in view of Cadeddu et al.

Regarding claim 5, Shiragaki et al. in view of Cadeddu et al. discloses:

The ring network of Claim 3, wherein each of said plurality of reconfigurable nodes includes information insertion devices (monitor circuits and protection switches in Figures) optically coupled to said signal input and adapted to position signaling information (col. 6, lines 1-4) into one or more optical signals.

Regarding claim 7, Shiragaki et al. in view of Cadeddu et al. discloses:

The ring network of Claim 3, wherein at least one of said reconfigurable nodes includes a first signal splitter (splitters in ADMs/path switches in Figures) adapted to receive a signal from

a selected one of the first and the second carriers and to split said signal into a first and a second fraction to be communicated toward a signal output.

Regarding claim 8, Shiragaki et al. in view of Cadeddu et al. discloses:

The ring network of Claim 7, wherein a selected one or more of said reconfigurable nodes (node A in Fig. 15A-C) includes a second signal splitter (optical splitters 1501-1502 in Figs. 15A-C) optically coupled to a signal input (input to protection switches in Figs. 15A-C) and adapted to split a signal coming from the signal input into a first and a second fraction to be communicated toward the first (rings 101 and 103 in Figs. 11A-15C) and second carriers (rings 102 and 104 in Figs. 11A-15C), respectively.

Regarding claim 9, Shiragaki et al. in view of Cadeddu et al. discloses:

The ring network of Claim 3, wherein said optical switch unit (protection switches and path switches in Figures) includes a first switch (path switches in Figures) having a first input that is optically coupled to a signal input (inputs to path switches from protection switches in Figures).

Regarding claim 10, Shiragaki et al. in view of Cadeddu et al. discloses:

The ring network of Claim 9, wherein said optical switch unit (protection switches and path switches in Figures) includes a second switch (protection switches TO NETWORK ELEMENT in Figures) having a first input that is coupled (via splitters) to the first carrier (rings 101 and 103 in Figs. 11A-15C), a second input that is coupled (via splitters) to the second carrier (rings 102 and 104 in Figs. 11A-15C), and wherein an output of the second switch is optically coupled to a signal output (output TO NETWORK ELEMENT from protection switches).

Regarding claim 14, claim 14 is a method claim that corresponds largely to the system claim 1. Therefore, the recited means in system claim 1 read on the corresponding steps in method claim 14. Claim 14 also includes limitations absent from claim 1. These limitations are:

each pair of communicating nodes including a first and a second link termination node adapted to mutually communicate at respective first and second wavelengths; and

checking if a failure is present in the ring network producing at least a failed link.

Shiragaki et al. in view of Cadeddu et al. also discloses such termination nodes (nodes A and B in Fig. 8) and such checking (col. 13, line 48 and col. 14, line 4).

Regarding claim 15, claim 15 is a method claim that corresponds largely to the system claim 2. Therefore, the recited means in system claim 2 read on the corresponding steps in method claim 15. Claim 15 also includes a limitation absent from claim 2. This limitation is:

optically separating *each* wavelength of the respective subset of wavelengths from a set of transmission wavelengths.

Shiragaki et al. in view of Cadeddu et al. also discloses such separating (demultiplexers in Figures).

Regarding claim 16, Shiragaki et al. in view of Cadeddu et al. discloses:

The method of Claim 14, further comprising:

inserting a signal into one of said nodes (node A in Fig. 15A-C);

splitting (optical splitters 1501-1502 in Figs. 15A-C) said signal into a first and a second fraction; and

sending said first fraction toward the first carrier (rings 101 and 103 in Figs. 11A-15C) and the second fraction toward the second carrier (rings 102 and 104 in Figs. 11A-15C).

Regarding claim 17, Shiragaki et al. in view of Cadeddu et al. discloses:

The method of Claim 14, further comprising:

receiving (ADMs in Figures) a signal in one of said nodes from either the first or the second carrier;

splitting (splitters in ADMs/path switches in Figures) said signal into a first and a second fraction; and

sending the first fraction toward the same carrier and the second fraction towards a signal output (NETWORK ELEMENT in Figures) of said node.

Regarding claim 21, Shiragaki et al. in view of Cadeddu et al. discloses:

The method of Claim 14, further comprising:

transmitting a failure message (col. 7, lines 15-51, OAM frame) from the first link termination node (col. 7, lines 15-51, destination node) to the second link termination node (col. 7, lines 15-51, source node) if a signal transmitted from the second link termination node to the first link termination node is not received or is degraded.

Regarding claim 22, claim 22 is a method claim that corresponds to system claim 4. Therefore, the recited means in system claim 4 read on the corresponding steps in method claim 22.

13. **Claims 6 and 23-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiragaki et al. in view of Cadeddu et al. as applied to claims 5 and 14 above, and further in view of Karasan et al. ("Optical restoration at the wavelength-multiplex-section level in WDM mesh networks").

Regarding claim 6, Shiragaki et al. in view of Cadeddu et al. discloses:

Ring network according to claim 5, wherein said information insertion devices (monitor circuits and protection switches in Figures) and said information extraction devices (monitor circuits and protection switches in Figures) optically couple said optical switch unit (switches in Figures) to said first and second carrier.

Shiragaki et al. in view of Cadeddu et al. does not expressly disclose:

said information insertion and extraction devices including optical transponders adapted to change the signals' wavelengths.

However, Karasan et al. teaches such transponders (Karasan et al., page 1343, col. 2, last paragraph). At the time the invention was made, it would have been obvious to a person of

ordinary skill in the art to include the transponders of Karasan et al. in the information insertion and extraction devices of Shiragaki et al. in view of Cadeddu et al. One of ordinary skill in the art would have been motivated to do this "to arrest accumulating performance-degradations; provide the open, nonproprietary interfaces that permit multivendor interworking; and offer a means of carrying out the performance-monitoring and fault-localization that are essential in deployed networks" (Karasan et al., page 1343, col. 2, last paragraph – page 1344, col. 1, 1st paragraph).

Regarding claim 23, Shiragaki et al. in view of Cadeddu et al. discloses:

The method of Claim 14, wherein the step of exchanging signals includes the following steps executed in the first link termination node:

generating an optical signal carrying information (signals generated from network elements and input into protection switches in Figures);

communicating (ADMs/path switches in Figures) the optical signal at the predetermined wavelength to a selected one of the first and second carriers.

Shiragaki et al. in view of Cadeddu et al. does not expressly disclose:

converting the optical signal into an electrical signal;

adding information to the electrical signal; and

reconverting the electrical signal into an optical signal provided with a predetermined wavelength adapted for transmission.

However, Karasan et al. teaches transponders that perform the first termination node steps of converting and reconverting (Karasan et al., page 1343, col. 2, last paragraph). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the transponders of Karasan et al. in the method of Shiragaki et al. in view of Cadeddu et al. One of ordinary skill in the art would have been motivated to do this "to arrest accumulating performance-degradations; provide the open, nonproprietary interfaces that

permit multivendor interworking; and offer a means of carrying out the performance-monitoring and fault-localization that are essential in deployed networks" (Karasan et al., page 1343, col. 2, last paragraph – page 1344, col. 1, 1st paragraph).

Shiragaki et al. in view of Cadeddu et al., further in view of Karasan et al., still does not expressly disclose:

adding to the electrical signal further information.

However, adding further information from an electrical signal is extremely well known and conventional in the art. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include this step in the method of Shiragaki et al. in view of Cadeddu et al., further in view of Karasan et al. One of ordinary skill in the art would have been motivated to do this to provide a variety of standard features: clock recovery information (Karasan et al., page 1343, col. 2, last paragraph), destination address for the signal, and performance-monitoring and fault-localization means (Karasan et al., page 1344, col. 1, 1st paragraph).

Regarding claim 24, Shiragaki et al. in view of Cadeddu et al. discloses:

The method of Claim 14, wherein the step of exchanging signals includes the following steps executed in the second link termination node:

receiving the optical signal at the predetermined wavelength from a selected one of the first and the second carriers (ADMs/path switches in Figures).

Shiragaki et al. in view of Cadeddu et al. does not expressly disclose:

converting the optical signal at the predetermined wavelength into an electrical signal;

extracting from the electrical signal the further information;

reconverting the electrical signal into an optical signal with a wavelength adapted for reception; and

receiving the optical signal with the wavelength adapted for reception.

However, Karasan et al. teaches transponders that perform the second termination node steps of converting, reconverting, and receiving (Karasan et al., page 1343, col. 2, last paragraph). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the transponders of Karasan et al. in the method of Shiragaki et al. in view of Cadeddu et al. One of ordinary skill in the art would have been motivated to do this "to arrest accumulating performance-degradations; provide the open, nonproprietary interfaces that permit multivendor interworking; and offer a means of carrying out the performance-monitoring and fault-localization that are essential in deployed networks" (Karasan et al., page 1343, col. 2, last paragraph – page 1344, col. 1, 1st paragraph).

Shiragaki et al. in view of Cadeddu et al., further in view of Karasan et al., still does not expressly disclose:

extracting information from the electrical signal.

However, extracting further information from an electrical signal is extremely well known and conventional in the art. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include these steps in the method of Shiragaki et al. in view of Cadeddu et al., further in view of Karasan et al. One of ordinary skill in the art would have been motivated to do this to provide a variety of standard features: clock recovery information (Karasan et al., page 1343, col. 2, last paragraph), destination address for the signal, and performance-monitoring and fault-localization means (Karasan et al., page 1344, col. 1, 1st paragraph).

Double Patenting

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

15. **Claims 1-6, 9, 14-15, and 21-22** are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 and 14-21 of copending Application No. 09/608,657 in view of Gerstel et al. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant invention is an obvious variation of the invention defined in the claims of the copending application.

Regarding claim 1 of the instant application, consider claim 1 of the copending application. The "ring network" in claim 1 of the instant application corresponds to the "system" in claim 1 of the copending application. The notable difference between the conflicting claims is the presence of the following limitations in claim 1 of the instant application; that is, the following limitations are absent from claim 1 of the copending application:

a ring network; and

said respective working path having a complementary arc path defining a respective protection arc path in which the first wavelength on the first carrier and the second wavelength on the second carrier can be used for further links; and

wherein the reconfiguration of one or more of the nodes reflects reconfiguration at a channel level associated with the ring network.

However, networks in the shape of rings are extremely well known and conventional in the art. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to shape the "system" of the copending application into a ring form. One of ordinary skill in the art would have been motivated to do this since ring networks provide architectures with mature protection and bandwidth sharing options.

Additionally, a ring-shaped "system" of the copending application inherently introduces a complementary arc path (copending application, complementary path to "working link" in claim 1, line 7) defining a respective protection arc path in which the first wavelength on the first carrier and the second wavelength on the second carrier can be used for further links. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use this respective protection arc path of a ring-shaped "system" of the copending application. One of ordinary skill in the art would have been motivated to do this in order to provide high utilization of the available bandwidth in the respective protection arc path.

Moreover, reconfiguration at a channel level is conventionally known and practiced in the art. Gerstel et al. teaches such reconfiguration (Gerstel et al., p. 107-113). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to practice the reconfiguration of the copending application such that it reflects reconfiguration at a channel level associated with the ring network. One of ordinary skill in the art would have been motivated to do this to provide fault recovery against failures of terminal equipment (an alternate choice, multiplex section level reconfiguration, does not provide this fault recovery) (Gerstel et al., p. 107, Table 1; p. 113, 3rd full paragraph). Additionally, another motivation is that reconfiguration at a channel level can have higher bandwidth efficiency over an alternate choice, reconfiguration at a multiplex section level (Gerstel et al., p. 112, Fig. 8).

Summarily, claim 1 of the instant application includes limitations absent in claim 1 of the copending application; claim 1 of the instant application defines a narrower, yet obvious, version of the invention defined in claim 1 of the copending application.

Regarding claims 2-6 and 9, claims 2, 3, 4, 5, 6, and 9 of the instant application are network claims that correspond closely to system claims 2, 3, 3, 4, 5, and 3 of the copending application, respectively. The notable difference between claims 2-6 and 9 of the instant application and claims 2-5 of the copending application is the express disclosure of a signal input and a signal output (instant application, claim 3). However, the claims of the copending application discloses a switch unit coupled to an optical transmitter and to an optical receiver (copending application, claim 3); these couplings inherently comprise the signal input and signal output of the instant application. Therefore, claims 2-6 and 9 of the instant application define an obvious version of the invention defined in claims 2-5 of the copending application.

Regarding claim 14 of the instant application, consider claim 6 of the copending application. The notable difference between the conflicting claims is the presence of the following limitations in claim 14 of the instant application; that is, the following limitations are absent from claim 6 of the copending application:

each pair including a first and a second link termination node adapted to mutually communicate at respective first and second wavelengths; and

said working path having a complementary arc path defining a protection arc path in which the first wavelength on the first carrier and the second wavelength on the second carrier can be used for further links.

However, claim 6 of the copending application discloses, "exchanging optical signals between one of the pairs of nodes over one of the bi-directional links by using a first wavelength...and a second wavelength" (copending application, claim 6, lines 5-7). The "pair of nodes" of the copending application corresponds to the "pair including a first and a second link

termination node" of the instant application. The "exchanging...by using a first wavelength...and a second wavelength" of the copending application corresponds to the "mutually communicate at respective first and second wavelengths" of the instant application.

Additionally, the ring network of the copending application inherently introduces a complementary arc path (copending application, complementary paths to "bidirectional links" in claim 6, lines 4 and 6) defining a protection arc path in which the first wavelength on the first carrier and the second wavelength on the second carrier can be used for further links. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use this protection arc path of a ring network of the copending application. One of ordinary skill in the art would have been motivated to do this in order to provide high utilization of the available bandwidth in the protection arc path.

Summarily, claim 14 of the instant application includes limitations absent in claim 6 of the copending application; claim 14 of the instant application defines a narrower, yet obvious, version of the invention defined in claim 6 of the copending application.

Regarding claims 15 and 21-22, claims 15, 21, and 22 of the instant application are method claims that correspond closely to method claims 7, 11, and 12 of the copending application, respectively. The differences between claims 15 and 21-22 of the instant application and claims 7 and 11-12 of the copending application are minor variations in the claim language; the main limitations are the same. Therefore, claims 15 and 21-22 of the instant application define an obvious version of the invention defined in claims 7 and 11-12 of the copending application.

This is a provisional obviousness-type double patenting rejection.

16. **Claims 7-10 and 16-17** are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 3 and 6 of copending Application No. 09/608,657 in view of Shiragaki et al.

Regarding claim 7, claim 3 of the copending application does not expressly disclose the following, but Shiragaki et al. does:

The ring network of Claim 3, wherein at least one of said reconfigurable nodes includes a first signal splitter (Shiragaki et al., splitters in ADMs/path switches in Figures) adapted to receive a signal from a selected one of the first and the second carriers and to split said signal into a first and a second fraction to be communicated toward a signal output.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement the add-drop multiplexers (ADMs) that include the first signal splitter of Shiragaki et al. in the nodes of claim 3 of the copending application. One of ordinary skill in the art would have been motivated to do this for a variety of advantages: these ADMs can be connected to ATM and SONET networks (Shiragaki et al., col. 5, lines 51-54) and also provide supervisory or OAM functions (Shiragaki et al., col. 6, lines 1-2).

Regarding claim 8, claim 3 of the copending application in view of Shiragaki et al. discloses:

The ring network of Claim 7, wherein a selected one or more of said reconfigurable nodes (Shiragaki et al., node A in Fig. 15A-C) includes a second signal splitter (Shiragaki et al., optical splitters 1501-1502 in Figs. 15A-C) optically coupled to a signal input (Shiragaki et al., input to protection switches in Figs. 15A-C) and adapted to split a signal coming from the signal input into a first and a second fraction to be communicated toward the first (Shiragaki et al., rings 101 and 103 in Figs. 11A-15C) and second carriers (Shiragaki et al., rings 102 and 104 in Figs. 11A-15C), respectively.

Regarding claim 9, claim 3 of the copending application in view of Shiragaki et al. discloses:

The ring network of Claim 3, wherein said optical switch unit (Shiragaki et al., protection switches and path switches in Figures) includes a first switch (Shiragaki et al., path switches in

Figures) having a first input that is optically coupled to a signal input (Shiragaki et al., inputs to path switches from protection switches in Figures).

Regarding claim 10, claim 3 of the copending application in view of Shiragaki et al. discloses:

The ring network of Claim 9, wherein said optical switch unit (Shiragaki et al., protection switches and path switches in Figures) includes a second switch (Shiragaki et al., protection switches TO NETWORK ELEMENT in Figures) having a first input that is coupled (Shiragaki et al., via splitters) to the first carrier (Shiragaki et al., rings 101 and 103 in Figs. 11A-15C) and a second input that is coupled (Shiragaki et al., via splitters) to the second carrier (Shiragaki et al., rings 102 and 104 in Figs. 11A-15C), and wherein an output of the second switch is optically coupled to a signal output (Shiragaki et al., output TO NETWORK ELEMENT from protection switches).

Regarding claim 16, claim 6 of the copending application does not expressly disclose the following, but Shiragaki et al. does:

The method of Claim 14, further comprising:

inserting a signal into one of said nodes (Shiragaki et al., node A in Fig. 15A-C);

splitting (Shiragaki et al., optical splitters 1501-1502 in Figs. 15A-C) said signal into a first and a second fraction; and

sending said first fraction toward the first carrier (Shiragaki et al., rings 101 and 103 in Figs. 11A-15C) and the second fraction toward the second carrier (Shiragaki et al., rings 102 and 104 in Figs. 11A-15C).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement the add-drop multiplexers (ADMs) of Shiragaki et al. that include the said steps of inserting and splitting in the nodes of claim 6 of the copending application. One of ordinary skill in the art would have been motivated to do this for a variety of advantages:

these ADMs can be connected to ATM and SONET networks (Shiragaki et al., col. 5, lines 51-54) and also provide supervisory or OAM functions (Shiragaki et al., col. 6, lines 1-2).

Regarding claim 17, claim 17 is a method claim that corresponds largely to system claim 7. Therefore, the recited means in system claim 7 read on the corresponding steps in method claim 17. Claim 17 also includes a limitation absent from claim 7. Claim 3 of the copending application in view of Shiragaki et al. discloses these limitations:

sending the first fraction (Shiragaki et al., output from splitters in ADMs to the same carrier) toward the same carrier.

This is a provisional obviousness-type double patenting rejection.

Response to Arguments

17. Applicant's arguments with respect to the rejection under Cadeddu et al. (as the primary reference) have been considered but are **moot in view of the new ground(s) of rejection**. See the treatment of the claims under Cadeddu et al. as the primary reference. Note the application of Gerstel et al. to address Applicant's amendment regarding "reconfiguration at a channel level associated with the ring network" (Paper No. 14, claim 1).

18. Applicant's arguments filed 04 August 2003 have been fully considered but they are **not persuasive**. Applicant presents arguments regarding the rejections under 103 and double patenting.

Regarding the rejections under 35 U.S.C. 103, Applicant asserts that three criteria for establishing a case of obviousness have not been met: suggestion or motivation to combine the references, reasonable expectation of success, and the teaching or suggestion of all the claim limitations by the prior art combination of references (Paper No. 14, page 17, last paragraph).

Regarding suggestion or motivation to combine, Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either

in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, there are multiple combinations: Cadeddu et al. combined with Gerstel et al., Shiragaki et al. combined with Cadeddu et al., and Shiragaki et al. in view of Cadeddu et al. combined with Karasan et al.

- The motivation for modifying Cadeddu et al. by incorporating channel level reconfiguration, as taught in Gerstel et al., is to provide fault recovery against failures of terminal equipment (multiplex section level reconfiguration does not provide this fault recovery) (Gerstel et al., p. 107, Table 1; p. 113, 3rd full paragraph). Additionally, another motivation is that reconfiguration at a channel level can have higher bandwidth efficiency over reconfiguration at a multiplex section level (Gerstel et al., p. 112, Fig. 8).
- The motivation for modifying Shiragaki et al. by using a protection arc path to carry further links, as taught in Cadeddu et al., is "to allow full exploitation of the transmission capacity" (Cadeddu et al., col. 2, lines 25-26) and to enable communication to continue "on the other carriers included in the same connection" (Cadeddu et al., col. 8, lines 18-24).
- The motivation for modifying Shiragaki et al. in view of Cadeddu et al. by incorporating transponders, as taught in Karasan et al., is to provide benefits of transponders that "arrest accumulating performance-degradations; provide the open, nonproprietary interfaces that permit multivendor interworking; and offer a means of carrying out the performance-monitoring and fault-localization that are essential in deployed networks" (Karasan et al., page 1343, col. 2, last paragraph – page 1344, col. 1, 1st paragraph).

Thus, Applicant's point about the first criterion is not persuasive.

Regarding reasonable expectation of success, Examiner notes that a case of prima facie obviousness has been made. The burden falls to the Applicant to rebut this case with objective evidence of non-obviousness. Mere argument does not overcome the prima facie case of obviousness. In particular, Applicant presents the following as objective evidence:

> "For example, there is no showing by the Examiner that the teachings of Cadeddu and any of the other references would be able to provide a reconfiguration capability for one or more of the nodes reflecting reconfiguration at a channel level associated with the ring network" (Paper No. 14, page 19, 1st full paragraph).

Examiner respectfully disagrees. The standing 102 and 103 rejections already address this assertion (see treatment of claim 1 under copending Application No. 09/608,657, treatment of claim 1 under Cadeddu et al., and treatment of claim 1 under Shiragaki et al. above). Thus, Applicant's point about the second criterion is not persuasive.

Regarding the teaching or suggestion of all the claim limitations by the prior art combination of references, Examiner notes that a case of prima facie obviousness has been made. The burden falls to the Applicant to rebut this case with objective evidence of non-obviousness. Mere argument does not overcome the prima facie case of obviousness. In particular, Applicant presents the following as objective evidence:

> "For example, Independent Claims 1 and 14 recite, in general, a reconfiguration capability of one or more of the nodes reflecting reconfiguration at a channel level associated with the ring network. In contrast to these teachings, no reference (alone or in combination) offers any disclosure that is relevant to such subject matter and, thus, to the patentability of Independent Claims 1 and 14" (Paper No. 14, p. 19, 2nd full paragraph).

Examiner respectfully disagrees. The standing 102 and 103 rejections already address this assertion (see treatment of claim 1 under copending Application No. 09/608,657, treatment of claim 1 under Cadeddu et al., and treatment of claim 1 under Shiragaki et al. above). Thus, Applicant's point about the third criterion is not persuasive.

Accordingly, Applicant's argument that three criteria for establishing a case of obviousness have not been met is not persuasive. Thus, Examiner respectfully maintains the standing rejections.

Regarding the rejections under double patenting, Applicant stands prepared to submit a terminal disclaimer (Paper No. 14, page 20, 1st full paragraph) and also requests the withdrawal of these rejections. The burden falls to the Applicant to adequately point out how the claims in the copending application is distinguishable from the pending claims in this instant application with objective evidence. Applicant does not provide such evidence. Thus, Examiner respectfully maintains the standing rejections.

19. Applicant does not present an argument against the provisional 102 rejections under copending Application No. 09/608,657. Accordingly, Examiner respectfully maintains the standing rejections under copending Application No. 09/608,657.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fang et al. is cited to show related reconfigurations at a channel level associated with a ring network.

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Kim whose telephone number is 703-305-6457. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 703-305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

DSK

M. R. Sedighian

M.R. SEDIGHIAN
Patent Examiner
Art Unit: 2633